

2010-10-11 Monday Morning Notes

Monday, October 11, 2010
7:18 AM

On-call:

- Monday and Tuesday: Steve Werkema

Stacking

- The pbar production target is developing some structural variation.
 - <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar10&action=view&page=264&anchor=141509&hilite=14:15:09->
 - The spot size on target was increased.
- Debuncher Momentum Studies (<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar10&action=view&page=265&scroll=false&load=>)
 - Saturday, Ralph came in and phased the Debuncher Momentum cooling.
 - This is a necessary step before getting the stacktail retuned.
 - Was not able to phase the band 4 TWTs because we can't adjust the trunk attenuator to a higher gain, required to get a good signal.
- Stacking Numbers
 - $\langle \text{stacking rate} \rangle = 26.7 \text{ mA/hr}$
 - $\langle \text{production} \rangle = 24.7 \text{ pbar/e6 proton}$
 - $\langle \text{beam on target} \rangle = 8.39 \text{ Tp}$

Transfers

- Unstacked 1650e10 (550e10 daily average) over 194 transfers (65 daily average) in 63 sets (21 daily average).
- $\langle \text{overall efficiency} \rangle = 96\%$
- If you take out the transfers from larger stacks, the average efficiency is 96.8%

Requests

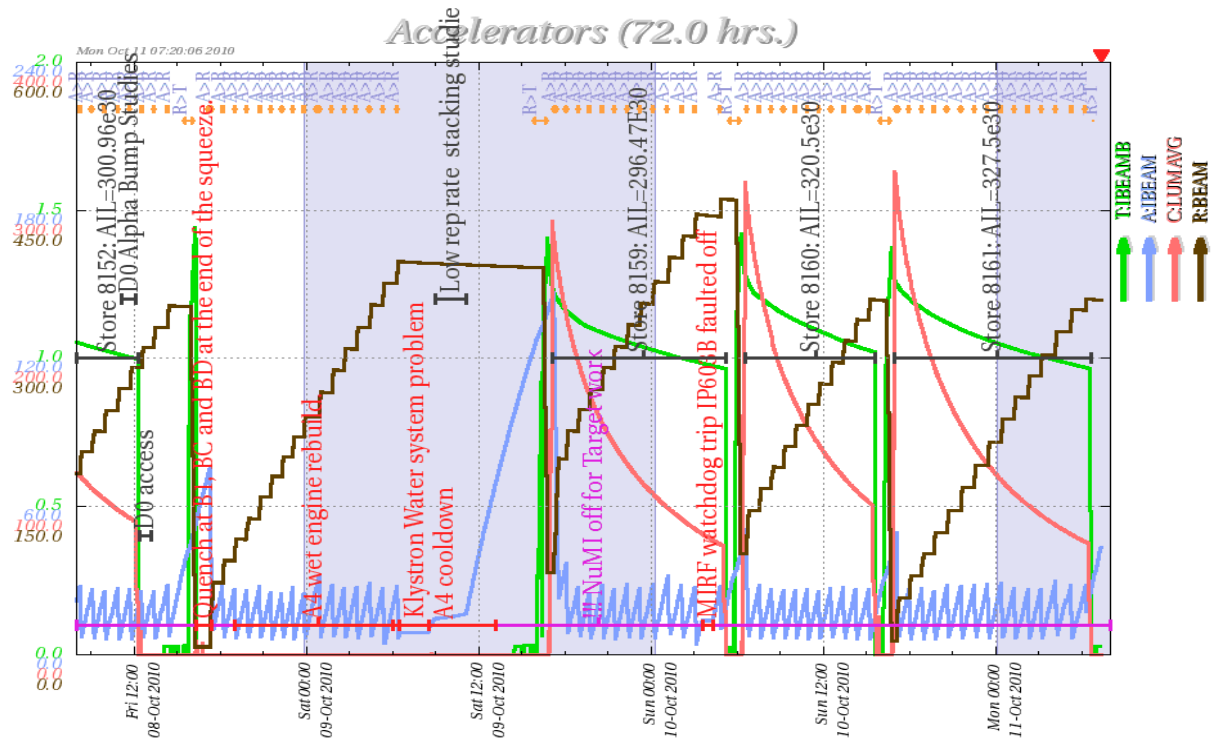
- General Tuning

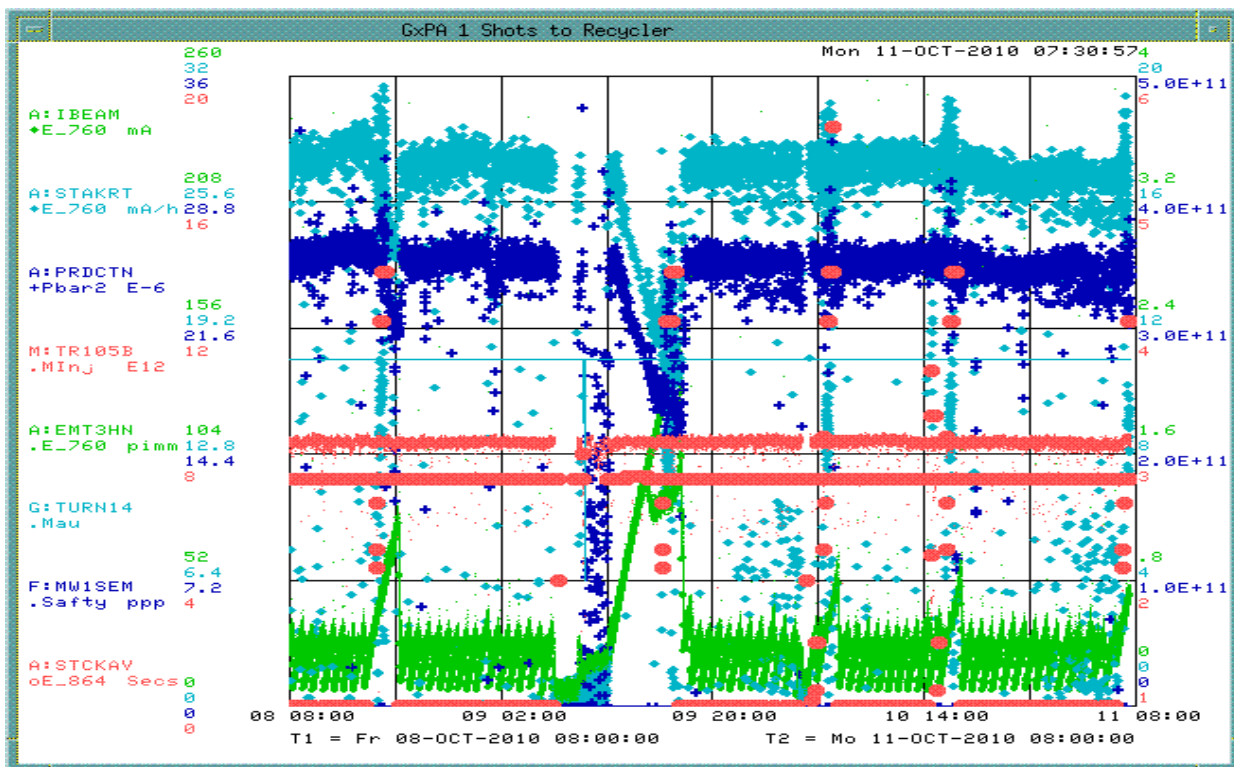
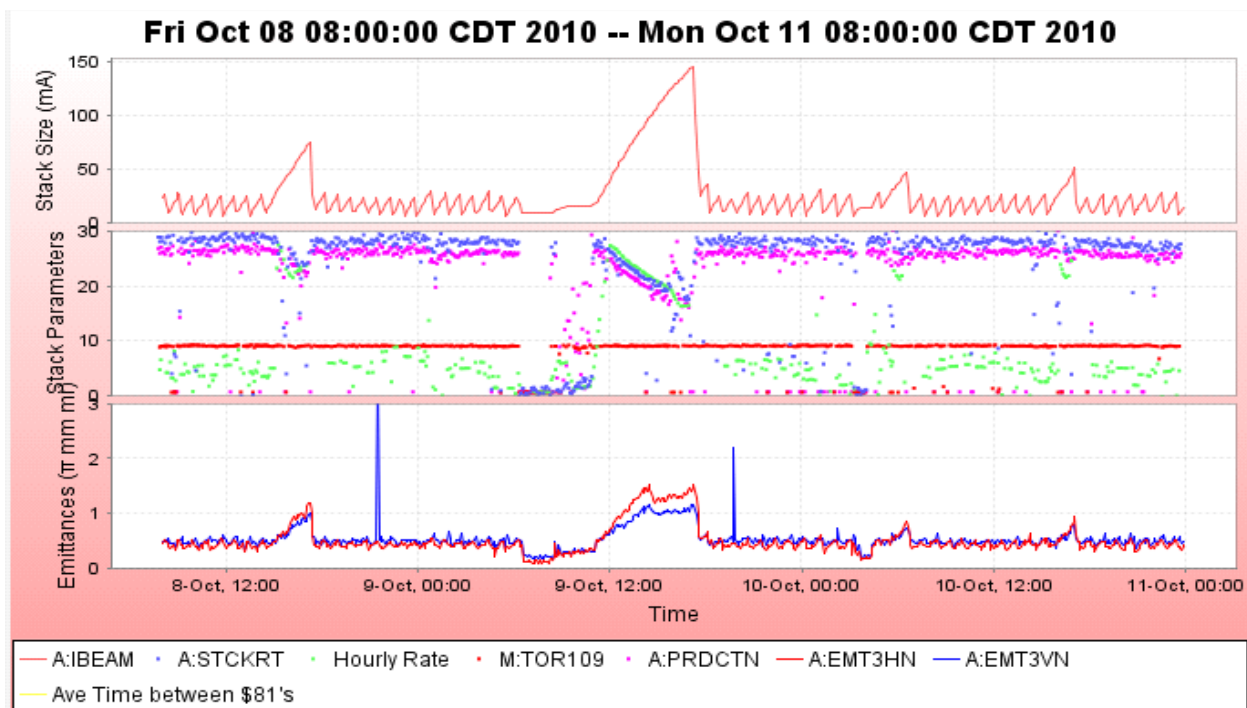
The Numbers

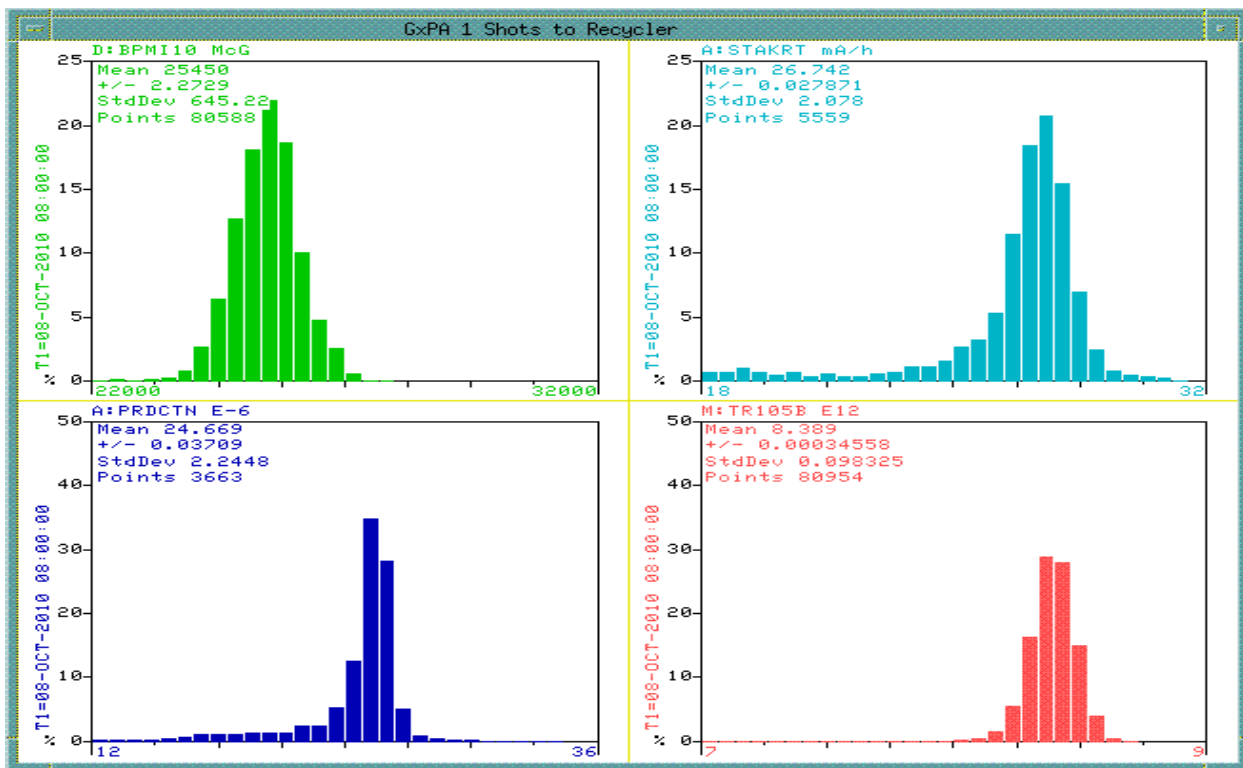
- Stacking
 - Pbars stacked: 1701.27 E10
 - Time stacking: 69.74 Hr
 - Average stacking rate: 24.40 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 84552
 - Number of pulses with beam: 80748
 - Fraction of up pulses was: 95.50%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 66.60 Hr
 - Possible average stacking rate: 25.54 E10/Hr
 - Could have stacked: 1781.42 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 1637.83 E10
 - Number of transfers : 193

- Number of transfer sets: 63
 - Average Number of transfer per set: 3.06
 - Time taken to shoot including reverse proton tuneup: 00.68 Hr
 - Transfer efficiency: 96.31%
- Other Info
- Average POT : 8.38 E12
 - Average production: 25.14 pbars/E6 protons

The Plots







Pbar Source Accumulator, Debuncher, AP1, AP2, & AP3 Beamline Views

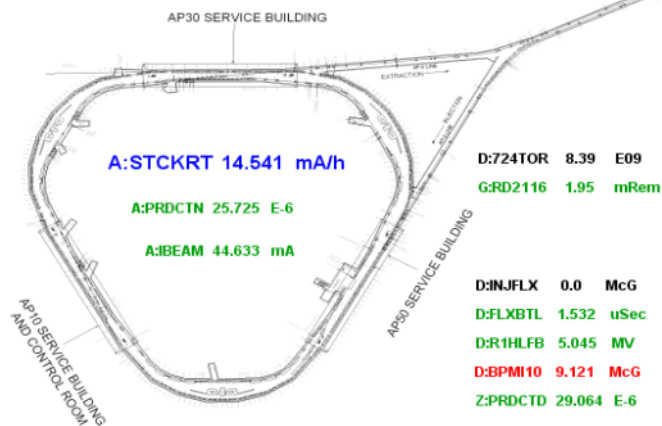
Program Running: Yes

V:APSMOD: Stacking

A:IBMINJ 14.812 e07
 A:LFTOVR 1.597 %
 A:STMEDS 12.228 MeV
 A:R1HLFB 23.039 kV
 A:FRWDTH 10.744 Hz
 A:CENFRQ 628897. Hz
 A:R2DDS1 628897. Hz
 A:EMT3HN 0.725 pimm
 A:EMT3VN 0.655 pimm
 A:XFRNXT 75.0 mA

M:EFF 0.0
 M:TR105B 8.404 E12

G:TURN14 11.0 Turns
 E:14SUM3 0.0 E12

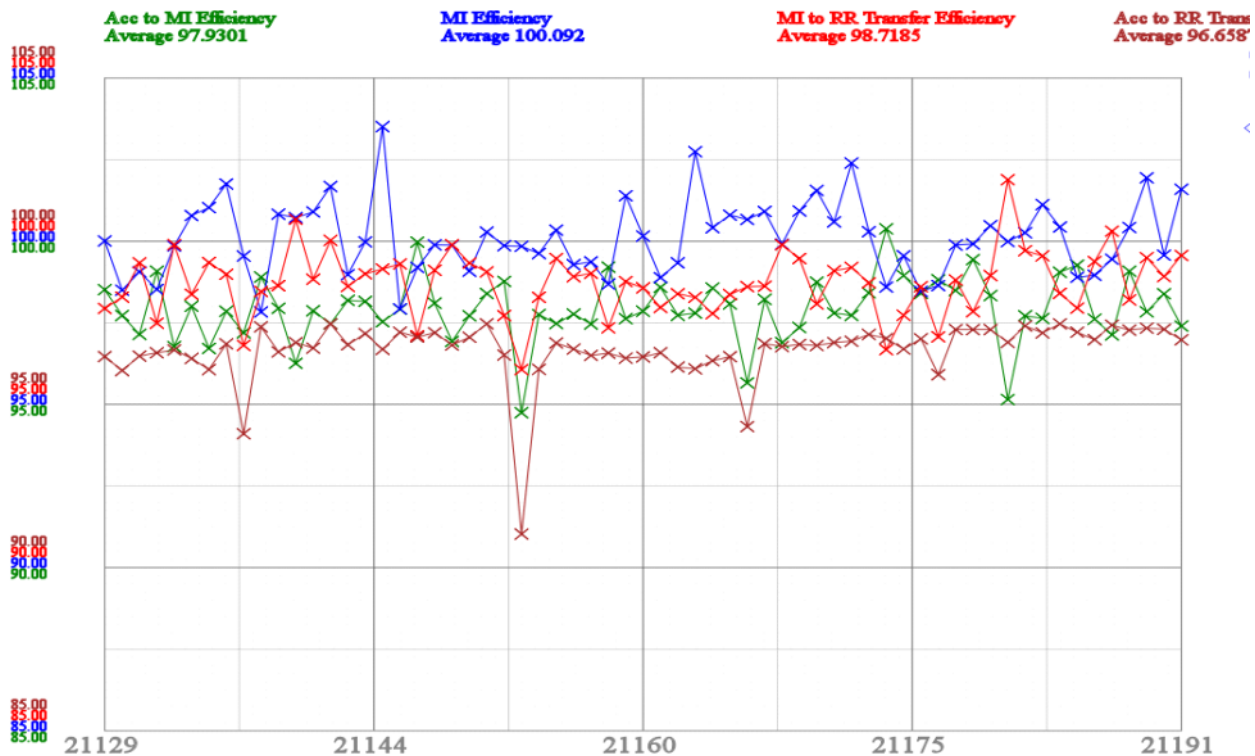


Pbar Beamlines BPM House Status

P1
 P2
 AP1
 AP2 F27
 AP2 AP50

0x80 Event Detected ☐
 A:STCKAV 4.05 Secs

Overthruster Status



Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3 Transfer Time	Column 21 Number _20_A-I BEAMB sampled on \$91 (A-BEAM7), E10	Column 22 Number _21_A-I BEAMB sampled on \$94 (A-BEAM9), E10	Unstacked (mA)	Column 23 Number _22_R- BEAMS (R-BEAM ME0[0]) pre xfer E10	Column 24 Number _23_R- BEAM (R-BEAM ME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Trans fers	Sets	Column 5 Number _4_Acc Horizontal Emittance	Column 6 Number _5_Acc Vertical Emittance	Column 8 Number _7_Acc Longitudinal Emittance	
Totals =>				1650.18			1585.16	96.06%	97.61%	97.66%	95.32%	194	63	4.5764	4.743	1.9292	
Daily Average =>				550.06			528.39					65	21				
21191	Monday, October 11, 2010	6:17	28.34	16.79	11.55	348.94	360.14	11.20	96.97%	97.39%	98.94%	96.37%	1	1	5.272	4.717	1.883
21190	Monday, October 11, 2010	5:14	28.00	6.77	23.74	326.79	349.68	23.08	97.21%	98.53%	98.18%	96.74%	3	1	4.24	4.039	1.966
21189	Monday, October 11, 2010	4:10	29.78	7.41	24.90	303.40	327.45	24.25	97.41%	98.03%	99.34%	97.39%	3	1	4.751	5.014	1.881
21188	Monday, October 11, 2010	3:08	26.63	6.44	22.68	282.03	303.94	22.08	97.38%	98.79%	98.91%	97.71%	3	1	4.275	4.614	1.941
21187	Monday, October 11, 2010	2:15	26.58	6.31	22.72	260.45	282.46	22.14	97.44%	96.98%	96.37%	93.46%	3	1	4.478	4.57	1.966
21186	Monday, October 11, 2010	1:17	27.16	6.42	23.30	238.40	260.88	22.61	97.05%	97.86%	96.94%	94.87%	3	1	4.358	4.348	1.968
21185	Monday, October 11, 2010	0:23	29.24	7.15	24.63	214.95	238.73	23.93	97.16%	98.92%	98.16%	97.10%	3	1	4.482	4.633	1.949
21184	Sunday, October 10, 2010	23:26	28.34	6.72	24.10	191.93	215.26	23.46	97.32%	98.98%	99.25%	98.23%	3	1	4.191	4.361	1.952
21183	Sunday, October 10, 2010	22:31	28.17	6.89	23.73	169.19	192.19	23.09	97.27%	97.61%	98.08%	95.74%	3	1	4.546	4.948	1.953
21182	Sunday, October 10, 2010	21:35	28.27	6.72	23.99	146.23	169.45	23.35	97.32%	98.13%	98.49%	96.65%	3	1	4.553	4.579	1.94
21181	Sunday, October 10, 2010	20:37	28.15	6.72	23.98	123.26	146.42	23.24	96.90%	95.68%	95.75%	91.61%	3	1	4.546	4.66	1.953
21180	Sunday, October 10, 2010	19:42	25.82	6.15	22.17	101.89	123.40	21.57	97.30%	98.48%	99.03%	97.52%	3	1	4.293	4.529	1.942
21179	Sunday, October 10, 2010	18:52	26.70	6.33	22.91	79.77	102.03	22.30	97.36%	99.30%	99.43%	98.74%	3	1	4.106	4.652	1.925
21178	Sunday, October 10, 2010	17:58	26.79	6.45	22.92	57.71	79.90	22.29	97.27%	98.27%	98.01%	96.31%	3	1	4.317	4.528	1.924
21177	Sunday, October 10, 2010	17:06	49.64	7.20	46.16	14.03	57.94	44.11	95.55%	98.56%	97.60%	96.20%	4	1	5.957	5.535	1.865
21176	Sunday, October 10, 2010	15:10	26.89	6.27	22.77	338.44	360.19	22.09	97.03%	98.01%	97.19%	95.26%	3	1	4.734	4.529	1.927
21175	Sunday, October 10, 2010	14:14	26.81	6.53	22.84	317.68	339.51	22.07	96.62%	98.90%	98.50%	97.42%	3	1	4.833	4.794	1.951
21174	Sunday, October 10, 2010	13:24	27.70	6.56	23.67	295.62	318.36	22.94	96.91%	99.82%	98.78%	98.60%	3	1	4.403	4.607	1.931
21173	Sunday, October 10, 2010	12:31	26.79	6.40	22.93	274.07	296.15	22.27	97.12%	98.62%	98.84%	97.47%	3	1	4.424	4.599	1.96
21172	Sunday, October 10, 2010	11:40	25.71	6.40	21.84	253.43	274.51	21.18	96.94%	97.53%	99.78%	97.32%	3	1	4.205	4.373	1.925
21171	Sunday, October 10, 2010	10:52	26.39	6.35	22.58	232.02	253.78	21.87	96.86%	98.25%	98.57%	96.84%	3	1	4.262	4.499	1.956
21170	Sunday, October 10, 2010	10:02	25.94	6.38	22.16	210.98	232.30	21.45	96.81%	98.17%	99.33%	97.51%	3	1	4.23	4.71	1.965
21169	Sunday, October 10, 2010	9:13	26.17	6.70	22.04	190.03	211.26	21.34	96.79%	97.40%	98.23%	95.67%	3	1	4.284	4.477	1.858
21168	Sunday, October 10, 2010	8:23	26.49	6.57	22.46	168.59	190.24	21.74	96.79%	97.24%	97.14%	94.46%	3	1	3.988	4.497	1.931
21167	Sunday, October 10, 2010	7:33	28.15	6.69	24.02	145.70	168.83	23.24	96.75%	97.92%	98.37%	96.32%	3	1	4.215	4.709	1.965
21166	Sunday, October 10, 2010	6:38	50.99	7.78	47.01	102.29	146.04	44.09	93.79%	95.70%	96.06%	91.92%	4	1	5.797	5.705	1.863
21165	Sunday, October 10, 2010	4:50	28.07	10.43	18.92	443.75	461.83	18.23	96.35%	97.75%	98.63%	96.42%	2	1	4.768	4.751	1.953
21164	Sunday, October 10, 2010	3:02	27.35	4.16	24.40	423.27	446.39	23.50	96.31%	98.14%	98.56%	96.72%	3	1	3.537	4.19	1.859
21163	Sunday, October 10, 2010	2:08	28.58	6.85	24.27	401.56	424.60	23.36	96.25%	97.46%	99.74%	97.21%	3	1	4.31	4.831	1.948
21162	Sunday, October 10, 2010	1:12	32.38	7.84	27.11	377.04	402.81	26.06	96.13%	97.81%	97.20%	95.07%	3	1	4.925	5.034	1.947

21161	Sunday, October 10, 2010	0:08	28.72	6.97	24.36	354.97	378.21	23.52	96.58%	98.40%	97.61%	96.05%	3	1	4.593	4.807	1.948
21160	Saturday, October 09, 2010	23:13	27.56	6.82	23.30	333.62	355.87	22.48	96.48%	97.96%	97.85%	95.85%	3	1	4.258	4.421	1.976
21159	Saturday, October 09, 2010	22:21	28.34	6.94	23.95	311.46	334.37	23.12	96.52%	97.74%	98.94%	96.70%	3	1	4.309	4.787	1.957
21158	Saturday, October 09, 2010	21:25	26.45	6.24	22.81	290.33	312.19	22.06	96.68%	99.11%	98.49%	97.62%	3	1	4.245	4.713	1.944
21157	Saturday, October 09, 2010	20:36	28.03	6.86	23.77	268.13	290.88	22.97	96.62%	97.60%	97.05%	94.72%	3	1	4.339	4.728	1.947
21156	Saturday, October 09, 2010	19:42	25.31	6.59	21.27	248.19	268.62	20.59	96.81%	97.52%	96.91%	94.51%	3	1	4.307	4.699	1.817
21155	Saturday, October 09, 2010	18:56	27.67	7.04	23.16	226.38	248.65	22.44	96.89%	97.17%	97.76%	94.99%	3	1	4.329	4.969	1.897
21154	Saturday, October 09, 2010	18:06	37.20	9.08	30.69	197.84	227.01	29.44	95.93%	97.62%	97.42%	95.11%	3	1	5.184	5.077	1.928
21153	Saturday, October 09, 2010	17:15	146.54	22.61	130.17	83.26	199.10	117.83	90.52%	94.33%	94.20%	88.86%	7	1	11.256	8.666	1.628
21152	Saturday, October 09, 2010	6:19	27.87	6.96	23.52	375.87	398.36	22.71	96.56%	98.66%	98.72%	97.39%	3	1	4.465	4.771	1.975
21151	Saturday, October 09, 2010	5:19	27.24	4.84	23.66	353.89	376.70	23.05	97.45%	98.43%	98.95%	97.40%	3	1	3.737	4.176	1.832
21150	Saturday, October 09, 2010	4:25	28.97	7.35	24.18	331.28	354.57	23.47	97.06%	97.84%	97.38%	95.28%	3	1	4.255	4.574	1.978
21149	Saturday, October 09, 2010	3:29	27.37	6.55	23.26	309.50	331.86	22.52	96.81%	97.04%	96.96%	94.09%	3	1	4.279	4.439	1.947
21148	Saturday, October 09, 2010	2:38	27.09	6.92	22.72	288.04	309.98	22.08	97.19%	98.26%	98.10%	96.39%	3	1	4.244	4.418	1.975
21147	Saturday, October 09, 2010	1:48	28.50	7.22	23.74	265.53	288.45	23.03	97.04%	99.62%	99.25%	98.87%	3	1	4.322	4.596	1.963
21146	Saturday, October 09, 2010	0:53	31.48	7.31	26.34	240.52	265.95	25.58	97.09%	98.24%	96.56%	94.86%	3	1	4.598	4.76	1.923
21145	Friday, October 08, 2010	23:48	24.78	6.25	21.15	220.52	240.86	20.46	96.73%	97.19%	100.20%	97.38%	3	1	4.027	4.502	1.965
21144	Friday, October 08, 2010	23:02	24.62	6.23	20.98	200.51	220.79	20.40	97.22%	98.21%	98.38%	96.63%	3	1	4.18	4.589	1.959
21143	Friday, October 08, 2010	22:17	24.96	6.67	20.90	180.60	200.75	20.25	96.87%	98.32%	97.15%	95.52%	3	1	4.242	4.349	1.885
21142	Friday, October 08, 2010	21:30	25.45	6.50	21.49	160.01	180.82	20.92	97.35%	97.82%	99.08%	96.92%	3	1	4.302	4.474	1.953
21141	Friday, October 08, 2010	20:44	27.72	7.09	23.25	137.82	160.19	22.48	96.68%	97.98%	98.77%	96.78%	3	1	4.396	4.649	1.975
21140	Friday, October 08, 2010	19:51	26.34	6.90	22.01	116.76	137.98	21.33	96.91%	96.52%	96.68%	93.32%	3	1	4.463	4.408	1.979
21139	Friday, October 08, 2010	19:00	26.78	6.93	22.38	95.32	116.90	21.63	96.66%	97.96%	98.86%	96.85%	3	1	4.143	4.741	1.917
21138	Friday, October 08, 2010	18:10	27.81	7.07	23.24	72.93	95.44	22.59	97.21%	98.73%	96.96%	95.73%	3	1	4.484	4.673	1.969
21137	Friday, October 08, 2010	17:17	75.89	9.62	70.48	7.98	73.15	65.71	93.24%	96.79%	96.40%	93.30%	5	1	7.443	6.331	1.787
21136	Friday, October 08, 2010	14:19	28.31	7.62	23.34	331.16	353.60	22.61	96.84%	98.04%	99.55%	97.60%	3	1	4.628	4.944	1.89
21135	Friday, October 08, 2010	13:23	25.56	6.54	21.66	311.10	331.74	20.80	96.01%	96.99%	97.68%	94.74%	3	1	4.266	4.437	1.981
21134	Friday, October 08, 2010	12:31	25.94	6.67	21.90	290.61	311.56	21.11	96.41%	97.96%	97.90%	95.90%	3	1	4.377	4.572	1.919
21133	Friday, October 08, 2010	11:43	26.57	6.46	22.73	269.20	290.99	21.92	96.47%	96.61%	96.81%	93.53%	3	1	4.445	4.672	1.948
21132	Friday, October 08, 2010	10:52	27.13	6.16	23.54	246.92	269.50	22.77	96.73%	98.83%	97.83%	96.69%	3	1	4.352	4.793	1.972
21131	Friday, October 08, 2010	9:55	25.80	6.54	21.85	226.33	247.28	21.06	96.41%	97.39%	96.51%	93.99%	3	1	4.088	4.397	1.973
21130	Friday, October 08, 2010	9:06	26.67	6.89	22.34	205.25	226.57	21.45	96.00%	97.74%	96.97%	94.77%	3	1	4.143	4.9	1.94
21129	Friday, October 08, 2010	8:14	28.01	6.98	23.60	182.93	205.54	22.72	96.30%	98.09%	98.42%	96.53%	3	1	4.337	4.743	1.948

